AMENDMENTS TO THE CLAIMS

Claim 1. (Currently amended) Method to denoise a stereo signal comprising a stereo sum signal and a stereo difference signal, **characterized by**

a frequency selective stereo to mono blending based on the masking effect of the human auditory system; and

using noise included in the stereo audio signal as a probe signal and an audio component of the audio signal as a mask signal.

Claim 2. (Cancelled)

Claim ~~3.~~ 2 (Currently amended) Method according to claim 1, ~~**characterized by**~~ ~~determining~~wherein the frequency selectivity is determined by dividing the stereo difference signal into subbands.

Claim ~~4.~~ 3 (Currently amended) Method according to claim ~~3~~ 2, ~~**characterized by**~~ ~~determining~~ wherein a number of subbands is determined according to the properties of the human auditory system.

Claim ~~5.~~ 4 (Currently amended) Method according to claim ~~3~~ 2, ~~**characterized by**~~ ~~determining~~wherein a width of a respective subband is determined according to the properties of the human auditory system.

Claim ~~6~~ 5. (Currently amended) Method according to claim ~~5~~ 2, ~~characterized by~~ ~~attenuating~~wherein every subband of the stereo difference signal which noise component lies above a signal component of a subband of the audio signal corresponding to that of the stereo difference signal is attenuated so that the noise component of the subband of the stereo difference lies below the respective absolute value of masking.

Claim ~~7~~ 6. (Currently amended) Method according to claim ~~6~~ 5, ~~characterized in that~~wherein an attenuation factor of a respective subband is determined by dividing the signal component of the subband of the audio signal corresponding to the subband of the stereo difference signal by the noise component of the subband of the stereo difference signal.

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Claim ~~8~~ 7. (Currently amended) Method according to claim ~~7~~ 6, wherein ~~characterized by limiting~~ the attenuation factor of a respective subband is limited to values between 0 and 1.

Claim ~~9~~ 8. (Currently amended) Method according to claim ~~7~~ 6, wherein ~~characterized by subtracting~~ a respective influence factor ~~(K_0, ..., K_N)~~ is subtracted from the attenuation factor of a respective subband to reduce the influence of noise in the signal component to the attenuation signal.

Claim ~~10~~ 9. (Currently amended) Method according to claim ~~6~~ 5, wherein ~~characterized by determining~~ the noise component of a subband of the stereo difference signal is determined on basis of its noise power which is determined by filtering an in quadrature

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component of the stereo difference signal into the respective subband and rms filtering the corresponding subband.

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Claim ~~11~~. (Currently amended) Method according to claim ~~10~~, wherein ~~characterized by~~ ~~determining~~ the noise component of a subband of the stereo difference signal is determined by weighting its noise power according to a respective corresponding absolute threshold of masking ~~$(M_0, ..., M_N)$~~, the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle ~~whithin~~ within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

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Claim ~~12~~. (Currently amended) Method according to claim ~~6~~, wherein ~~characterized by~~ ~~determining~~ the signal component corresponding to a subband of the stereo difference signal is determined according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

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Claim ~~13~~. (Currently amended) Method according to claim ~~12~~, wherein ~~characterized by~~ ~~weighting~~ the squared subband signal of the in phase component of the stereo difference signal is weighted with a weighting factor ~~$(W_0, ..., W_N)$~~ according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle ~~whithin~~within which the stereo

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signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

Claim 14. (Cancelled)

Claim ~~15.~~ 13 (Currently amended) Stereo signal noise reducer, comprising a first filter bank ~~(1)~~ to split the stereo difference signal ~~(1-r)~~ into a plurality of subbands, respective first multipliers ~~($2_0, \ldots, 2_N$)~~ to weight each of the subbands of the stereo difference signal with a respective corresponding control signal ~~($C_0, \ldots, C_N$)~~, and a first adder ~~(3)~~ to sum all weighted subbands of the stereo difference signal ~~(1-r)~~ to build a frequency selective weighted stereo difference signal ~~(diff)~~, **characterized in that** a number and width of the subbands obtained via the first filter bank ~~(1)~~ are ~~choosen~~chosen according to the properties of the human auditory system, and by a weighting factor determination unit which determines a respective control signal ~~($C_0, \ldots, C_N$)~~ frequency selective based on the masking effect of the human auditory system.

Claim ~~16.~~ 14 (Currently amended) Noise reducer according to claim ~~15~~ 13, ~~characterized in that~~wherein said weighting factor determination unit comprises

- a respective division unit ~~(4)~~ to determine a ratio of a signal component of each of the subbands of the audio signal corresponding to the subbands of the stereo difference signal to a noise component of each of the subbands of the stereo difference signal ~~(1-r)~~.

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Claim ~~17.~~ (Currently amended) Noise reducer according to claim ~~16~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

- a respective second adder ~~(5_0, ..., 5_N)~~ to determine the control signal ~~(C_0, ..., C_N)~~ by subtracting a respective influence factor ~~(K_0, ..., K_N)~~ from the output signal of the division unit ~~(4)~~ to reduce the influence of noise in the signal component to said control signal ~~(C_0, ..., C_N)~~.

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Claim ~~18.~~ (Currently amended) Noise reducer according to claim ~~15~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

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- a mixer ~~(6)~~ and a first lowpass filter ~~(7)~~ to determine the noise component of the stereo difference signal ~~(l-r)~~ by deriving its in quadrature component, and

- a second filter bank ~~(8)~~ having the same characteristics as the first filter bank ~~(8)~~ having the same characteristics as the first filter bank ~~(1)~~ to determine the noise component of each of the subbands of the stereo difference signal ~~(l-r)~~.

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Claim ~~19.~~ (Currently amended) Noise reducer according to claim ~~18~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

- a respective first rms determinator ~~(9)~~ receiving a respective output signal of the second filter bank ~~(8)~~ to determine the respective noise power corresponding to the respective noise component of a subband of the stereo difference signal ~~(l-r)~~.

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Claim ~~20.~~ (Currently amended) Noise reducer according to claim ~~19~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

- a respective second multiplier ~~(10_0, ..., 10_N)~~ to determine the noise component of a subband of the stereo difference signal ~~(1-r)~~ by weighting the respective noise power according to a respective corresponding absolute threshold of masking ~~(M_0, ..., M_N)~~, the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle ~~whithin~~within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

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Claim ~~21.~~ (Currently amended) Noise reducer according to claim ~~16~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

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- a third filter bank ~~(11)~~ having basically the same characteristics as the first filter bank ~~(1)~~ to determine the signal component of each of subbands of the stereo sum signal ~~(1+r)~~ corresponding to the subbands of the stereo difference signal ~~(1-r)~~.

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Claim ~~23.~~ (Currently amended) Noise reducer according to claim ~~18~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

- a respective second rms determinator ~~(12_0, ..., 12_N)~~ receiving respective corresponding output signals of the first filter bank ~~(1)~~, the third filter bank ~~(11)~~ or the first and third filter banks ~~(1, 11)~~ to determine the respective signal power corresponding to the signal component of each of the subbands of the stereo signal.

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Claim ~~23.~~ (Currently amended) Noise reducer according to claim ~~22~~, wherein ~~characterized in that~~ said weighting factor determination unit comprises

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- a respective third multiplier ~~(13_0, ... 13_N)~~ to determine the signal component of each of the subbands of the stereo signal by weighting the respective output signal of the first filterbank ~~(1)~~ with a weighting factor ~~(W_0, ..., W_N)~~ according to the fieldstrength of the received fm signal, a volume of output sound, a background noise level, the signal amplitude power of the audio signal, a speed of a vehicle ~~whithin~~within which the stereo signal is reproduced, and/or the ratio of the signal power to the noise power of the difference signal of the corresponding subband.

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